

Please add the following new claims 33-61 inclusive

33. (New) A spill containment system for containing a hazardous spilled substance from a battery, the spill containment system comprising:

a plurality of containment rails to define an area for housing at least one battery;

a coating in the area defined by the containment rails, the coating to protect the area from the spilled substance; and

a material for placement within the area of the containment rails, the material to absorb and chemically neutralize the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

34. (New) The spill containment system of claim 33 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

35. (New) The spill containment system of claim 33 wherein the coating includes epoxy.

36. (New) The spill containment system of claim 35 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

37. (New) The spill containment system of claim 36 wherein the plurality of containment rails are coated with polyvinylchloride.

38. (New) The spill containment system of claim 37 wherein the dimensions of the containment rails are adjustable.

39. (New) The spill containment system of claim 38 wherein at least one of the plurality of the containment rails is invertible between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail have no protruding structures and in the second configuration, the exterior surfaces of the containment rail have protruding structures.

38

B

Sub 42
40. (New) The spill containment system of claim 33 further comprising a liner for placement within the area defined by the plurality of containment rails, the liner being resistant to damage from the spilled substance.

Sub 41
41. (New) The spill containment system of claim ⁴³~~40~~ wherein the liner is fabricated at least partially out of polyvinylchloride.

Sub 43
42. (New) The spill containment system of claim 33 wherein the coating is a liquid when the coating is applied to the area defined by the containment rails and after time, the coating dries into a solid.

39
43. (New) The spill containment system of claim ³⁸~~42~~ wherein the coating includes epoxy.

Sub 44
44. (New) A battery spill containment system comprising:
a plurality of containment rails to define an area for housing at least one battery;
a coating in the area defined by the containment rails, the coating to protect the area from a spilled substance from the battery; and
a material for placement within the area of the containment rails, the material to absorb the spilled hazardous substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

45. (New) The battery spill containment system of claim 44 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

46. (New) The battery spill containment system of claim 44 wherein the coating includes epoxy.

Sub 47
47. (New) The battery spill containment system of claim ⁴⁷~~46~~ wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

39

B

⁵⁰
48. (New) The battery spill containment system of claim ⁴⁵~~44~~ wherein the plurality of containment rails are coated with polyvinylchloride.

⁵¹
49. (New) The battery spill containment system of claim ⁴⁵~~44~~ wherein the dimensions of the containment rails are adjustable.

⁵²
50. (New) The battery spill containment system of claim ⁴⁵~~44~~ wherein at least one of the plurality of the containment rails is invertible between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail have no protruding structures and in the second configuration, the exterior surfaces of the containment rail have protruding structures.

⁵³
51. (New) The battery spill containment system of claim 44 further comprising a liner placed within the area defined by the plurality of containment rails, the liner being resistant to damage from the spilled substance.

⁵⁴
52. (New) The battery spill containment system of claim ⁵³~~51~~ wherein the liner is fabricated at least partially out of polyvinylchloride.

⁵⁵
53. (New) The battery spill containment system of claim 44 wherein the coating is a liquid when the coating is applied to the area defined by the containment rails and after time, the coating dries into a solid.

⁵⁶
54. (New) The battery spill containment system of claim ⁴⁵~~44~~ wherein the material chemically neutralizes the spilled hazardous substance from the battery.

⁵⁶
55. (New) A battery spill containment system comprising:
a containment rail system to define an area for housing at least one battery;
a liner placed within the area defined by the containment rail system, the liner being resistant to damage from a spilled substance from the battery; and

40

B

I claim:

1. A spill containment system for containing a hazardous spilled substance from a battery, the spill containment system comprising:

5 a containment rail system to define an area for housing at least one battery;

a liner for placement in the area defined by the containment rail system, the liner being resistant to damage from the spilled substance; and

10 a material for placement in the area of the containment rail system, the material to chemically neutralize the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

15 2. The spill containment system of claim 1 wherein the containment rail system is coated with a material that is resistant to damage from the spilled substance.

3. The spill containment system of claim 1 wherein the containment rail system is coated with polyvinylchloride.

20 4. The spill containment system of claim 1 wherein the liner is coated with polyvinylchloride.

5. The spill containment system of claim 1 wherein the liner is fabricated out of polyvinylchloride.

6. The spill containment system of claim 1 wherein the dimensions of the containment rail system is adjustable.

5 7. The spill containment system of claim 1 wherein the containment rail system is invertible between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail system have no protruding structures and in the second configuration, the
10 exterior surfaces of the containment rail system have protruding structures.

8. The spill containment system of claim 1 further comprising a protective member that protects the material from the battery.

15 9. The spill containment system of claim 8 wherein the protective member is a grid placed between the battery and the material.

10. The spill containment system of claim 1 further comprising a spill detector that detects whether a spill has
20 occurred.

11. The spill containment system of claim 10 wherein the spill detector indicates whether a spill has occurred.

12. The spill containment system of claim 10 wherein when the spill detector detects that a spill has occurred, the
5 spill detector alerts a device.

13. The spill containment system of claim 10 wherein the spill detector communicates with a device when the spill detector detects that a spill has occurred such that the device performs an act to remedy the spill.

10 14. The spill containment system of claim 10 wherein the spill detector includes a circuit having an electrical characteristic and a circuit monitor that monitors the electrical characteristic of the circuit and when the electrical characteristic changes appropriately, the circuit
15 monitor determines that a spill has occurred.

15. The spill containment system of claim 14 wherein the circuit includes a plurality of conductors and the electrical characteristic is the amount of current flowing through the plurality of conductors.

16. The spill containment system of claim 10 wherein the spill detector includes:

a permeable membrane through which the spilled substance may pass to contact the circuit; and

5 a circuit monitor that monitors whether the spilled substance has passed through the permeable membrane.

17. A method for containing a hazardous spilled substance from a battery, the method comprising the steps of:

building a containment system by connecting a
10 plurality of containment rails to form an area of containment on a floor, the area of containment being adapted for housing at least one battery, the containment system having walls rising vertically from the floor;

providing an insert within the area of containment of
15 the containment system, the insert being resistant to damage from the spilled substance;

providing a material that is capable of absorbing and chemically neutralizing the spilled substance from the battery so that the hazardous nature of the spilled substance to
20 humans or material structures is reduced; and

placing the material within the area of containment of the containment system.

18. The method for containing a spilled substance of claim 17 further comprising the step of coating the plurality of containment rails with a material that is resistant to damage from the spilled substance.

5 19. The method for containing a spilled substance of claim 17 wherein the step of providing an insert includes the step of coating the insert with polyvinylchloride.

20. The method for containing a spilled substance of claim 17 wherein the step of providing an insert includes the step
10 of fabricating the insert out of polyvinylchloride.

21. The method for containing a spilled substance of claim 17 wherein the building step includes the step of adjusting the plurality of containment rails to build a containment system having desired dimensions.

15 22. The method for containing a spilled substance of claim 17 wherein the plurality of containment rails are invertible such that the building step includes the step of building a containment system such that the exterior surfaces of the containment system have no protruding structures.

20 23. The method for containing a spilled substance of claim 17 wherein the step of placing the material within the area of containment includes the step of placing a protective member

between the material and the battery where the protective member protects the material from the battery.

24. The method for containing a spilled substance of claim 17 further comprising the step of detecting whether a spill
5 has occurred.

25. The method for containing a spilled substance of claim 24 further comprising the step of indicating whether a spill has occurred.

26. The method for containing a spilled substance of claim
10 24 further comprising the step of alerting a second device when the step of detecting whether a spill has occurred detects a spill.

27. The method for containing a spilled substance of claim 24 further comprising the steps of:
15 communicating with a device when a spill is detected;
and
remedying the spill.

28. The method for containing a spilled substance of claim 24 wherein the step of detecting a spill includes the steps
20 of:
providing a circuit having an electrical characteristic; and

monitoring whether the electrical characteristic changes.

29. The method of containing a spilled substance of claim 17 further comprising the step of providing a plurality of containment systems positioned adjacent to one another.

30. The method of containing a spilled substance of claim 29 further comprising the step of stacking the plurality of containment systems on top of one another.

31. A spill containment rack comprising a plurality of the spill containment systems of claim 1, the spill containment systems being positioned adjacent to one another.

32. The spill containment rack of claim 31 wherein the spill containment systems are stacked on top of one another.

33. A spill containment system for containing a hazardous spilled substance from a battery, the spill containment system comprising:

a plurality of containment rails to define an area for housing at least one battery;

a coating in the area defined by the containment rails, the coating to protect the area from the spilled substance; and

a material for placement within the area of the

containment rails, the material to absorb and chemically neutralize the spilled substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

5 34. The spill containment system of claim 33 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

35. The spill containment system of claim 33 wherein the coating includes epoxy.

10 36. The spill containment system of claim 35 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

37. The spill containment system of claim 33 wherein the plurality of containment rails are coated with
15 polyvinylchloride.

38. The spill containment system of claim 33 wherein the dimensions of the containment rails are adjustable.

39. The spill containment system of claim 33 wherein at least one of the plurality of the containment rails is
20 invertible between a first and second configuration such that in the first configuration, the exterior surfaces of the

containment rail have no protruding structures and in the second configuration, the exterior surfaces of the containment rail have protruding structures.

40. The spill containment system of claim 33 further
5 comprising a liner for placement within the area defined by the plurality of containment rails, the liner being resistant to damage from the spilled substance.

41. The spill containment system of claim 40 wherein the liner is fabricated at least partially out of
10 polyvinylchloride.

42. The spill containment system of claim 33 wherein the coating is a liquid when the coating is applied to the area defined by the containment rails and after time, the coating dries into a solid.

15 43. The spill containment system of claim 42 wherein the coating includes epoxy.

44. A battery spill containment system comprising:

a plurality of containment rails to define an area for housing at least one battery;

20 a coating in the area defined by the containment rails, the coating to protect the area from a spilled substance from the battery; and

a material for placement within the area of the containment rails, the material to absorb the spilled hazardous substance from the battery so that the hazardous nature of the spilled substance to humans or material structures is reduced.

45. The battery spill containment system of claim 44 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

46. The battery spill containment system of claim 44 wherein the coating includes epoxy.

47. The battery spill containment system of claim 46 wherein the plurality of containment rails are coated with the coating to protect the containment rails from the spilled substance.

48. The battery spill containment system of claim 44 wherein the plurality of containment rails are coated with polyvinylchloride.

49. The battery spill containment system of claim 44 wherein the dimensions of the containment rails are adjustable.

50. The battery spill containment system of claim 44 wherein at least one of the plurality of the containment rails is invertible between a first and second configuration such that in the first configuration, the exterior surfaces of the containment rail have no protruding structures and in the second configuration, the exterior surfaces of the containment rail have protruding structures.

51. The battery spill containment system of claim 44 further comprising a liner placed within the area defined by the plurality of containment rails, the liner being resistant to damage from the spilled substance.

52. The battery spill containment system of claim 51 wherein the liner is fabricated at least partially out of polyvinylchloride.

53. The battery spill containment system of claim 44 wherein the coating is a liquid when the coating is applied to the area defined by the containment rails and after time, the coating dries into a solid.

54. The battery spill containment system of claim 44 wherein the material chemically neutralizes the spilled hazardous substance from the battery.

55. A battery spill containment system comprising:
a containment rail system to define an area for
housing at least one battery;
a liner placed within the area defined by the
5 containment rail system, the liner being resistant to damage
from a spilled substance from the battery; and
a material for placement within the area of the
containment rails, the material to absorb the spilled
hazardous substance from the battery so that the hazardous
10 nature of the spilled substance to humans or material
structures is reduced.

56. The battery spill containment system of claim 55
wherein the containment rail system is coated with a coating
to protect the containment rail system from the spilled
15 substance.

57. The battery spill containment system of claim 56
wherein the coating includes epoxy.

58. The battery spill containment system of claim 55
wherein the dimensions of the containment rail system are
20 adjustable.

59. The battery spill containment system of claim 55 wherein the material chemically neutralizes the spilled hazardous substance from the battery.

60. The battery spill containment system of claim 55 wherein the liner is fabricated at least partially out of polyvinylchloride.

61. The spill containment system of claim 1 wherein the material absorbs the spilled substance from the battery.

ABSTRACT

SPILL CONTAINMENT SYSTEM AND METHOD

A spill containment system and method that contain leaks and spills from devices including but not limited to
5 batteries. The system neutralizes and absorbs leaks and spills to prevent the leaks and spills from spreading. The system not only detects leaks, but also indicates whether a leak has occurred. The system can communicate with personnel or devices to raise an alarm or cause corrective measures to occur.

10